

6, 400, 1,000, 1, 12, 1/5, (重症度), 가 1, 5%, 25%, D, 1-4, 가, 가, 가, Chlamydia pneumoniae, hantavirus, 가, macolides, beta-lactams, fluoro-quinolones, carbapenems (meropenem, imipenem), streptogramins, (virulence), 가, 90, 가, 10, axella catarrhalis, Legionella, Klebsiella, 가, 가, 가, 가, (Table 1)4.

Table 1.

(,)/	Streptococcus pneumoniae, Hemophilus influenzae, Moraxella catarrhalis, Legionella species
	Streptococcus pneumoniae, Hemophilus influenzae, Anaerobes
	Influenza, Streptococcus pneumoniae, Hemophilus influenzae, Staphylococcus aureus, Streptococcus pyogenes
	Streptococcus pneumoniae, Anaerobes, Hemophilus influenzae, Legionella pneumophila, Gram negative bacilli, Mycobacterium tuberculosis

가
가
Pneumocystis Nocardia
가
6 buffy coat
3 , Q , adenovirus
7
8
가
4 가
1 10 가
Mycoplasma pneumoniae 가
가, 24
1-2 가 가 가
Legionnaire , Legionnaire 가
Mycoplasma 가 가
Q fever, tularemia, , Legionnaire 가가
Mycoplasma, pigmented cast가 가
creatinine phosphokinase가 가
influenza virus , Legionnaire , 5)
가
5 lobar or segmental
consolidation, patch bronchopneumonia, nodules(, ,
), interstitial pattern

80% rigor) 가 (single 가 10 가 , () virus, mycoplasma, chlamydia, tularemia, legionella 가 6. 40% H. influenzae, S. aureus, gram- negative enteric bacilli 가 가 가

1). Mycoplasma

Legionella influenza가 , (fine 1). crackles) 80% 가

Mycoplasma, Legionella, Chlamydia 가

Legionella bronchial breath sounds, egophony((consolidation) 가 가 Mycoplasma 30%

AIDS 가 가 . Mycoplasma pneumoniae 4.

, H. influenzae, influenza C. pneumoniae 가

Legionella가 가 . Mycoplasma pneumoniae 24 , P. carinii 10 30%, 가 가

3- 6 Myco- 7). plasma pneumoniae 가 4.

80%, 60 80%, 30%, 40 50%, 80% , 3% , 28% 가 37.8

가 1.6 , 100 , 8). 3 68 78%, 24 45 69%, 100 45%

3 85%

가 (Legionella, influenza virus, P. carinii)가
subsegmental, seg-
mental, lobar pneumonia 가
가 (patch peribronchial 가
multifocal) 가
(bronchopneumonia) 가

(,), (,)
5.

가

가

50-60% 80%

. Klebsiella pneumoniae가

가 가 85%

. Klebsiella 90%
41%

(current jelly)

(horizontal) fissure가

minor 1-2
(bulging fissure) 가 , 2-5

Klebsiella 가

가 가

. bulging fissure 가

Enterobacteriaceae S. aureus

serotype III

Enterobacteriaceae, S.

zae, M. pneumoniae, virus

. H. influenzae가

25

가

<5 (10)

8

가

30

가

9.

50%-60%, 95% . *L. pneumophila* .
 subgroup 1 가 15,000 30,000 /mm³ .
Legionella
 Gram
 4). *M. pneumoniae*, *Chlamydia pneumoniae*, respiratory
 cold agglutinin 1:64 *M. pneumo-* viruses, 1).
niae 가 30%-60%
 가 4). *M. pneumoniae* IgM 가 가 가
 1 가 2-12
 가 7-10
 3 . *Mycoplasma*
 mycoplasma 가
 plasma myco- 가
 가
Chlamydia Legionella , *H. influenzae* 가
 Quellung
 . *C. pneumoniae* 1 , capsular polysaccharide 가
 IgM 3 , IgG 8
 가 C.
pneumoniae IgG 가 가 가 가
 가 가 IgM 가 가 가 가
 . *Legionella*
 가가 . 가가 1:256 1995 1996 6 1
 가 ,
 가 15% . IgM IgG 247 76 (31%)
 가 20 , 18 (7.3%), 3
 4). , 13 (*Klebsiella* 7), *Hemo-*
 polymerase chain reaction (PCR) *philus* 11 , *S. aureus* 5 , *Mycoplasma* 4 , *mucor-*
 mycosis 1 .
 PPD 가 가
 가 PCR 가 가
 12).
 FDA AFB
 PCR 가
 4).
 (CBC), , 가
 , , 1).
 가 , 가 ,
 가 , 60 .

11). *S. pneumoniae* 가 가 16).
S. pneumoniae penicillin 80%
 가 ,
 , 17, 18). Penicillin
 가 3
 11). 65 ,
 , penicillin S.
 pneumoniae cephalosporin beta-
 lactams, sulfamethoxazole/trimethoprim, macrolide
 1). 가 cefotaxime 81%, imipenem
 가 43% 가 17, 18).
 . 1 ug oxacillin disk
 가 99%
 , , 4가 , 가 80% 가
 , , 20% 4).
 1). MIC penicillin
 가 가 (MIC 0.12 1.0 ug/ml) penicillin
 가 amoxicillin cephalos-
 porins, macolides ceftria-
 xone, cefotaxime 가 MIC 2.0 ug/ml
 11). , vancomycin, imipenem/
 cilastin 4). penicillin MIC 4.0 ug/ml
 . vancomycin
 ceftriaxone, cefotaxime MIC 2.0 ug/ml
 , imipenem/
 cilastin 4).
 13). 가 fluoroquinolones 4).
 . fluoroquinolone levofloxacin, sparflo-
 xacin, grepafloxacin, trovafloxacin 4).
 가 penicillin 89% 가
 . 4).
 penicillin *Streptococcus pneumoniae* , 가 ,
 25% 가 80% , ,
 , dependent part 4).
 cefaclor, cefotaxime 60%
 cephalosporins 4), coliform bacteria .
 cephalosporins *S. pneumoniae*
 가 15). 1). transtracheal aspirate,

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가 30% , , , (20-40%),
 가가 , , phosphorus ,
 7) , CPK 가, lactic dehydrogenase >700 U/ml,
 clindamycin 가 4. Legionella
 penicillin G . metronidazole .
 microaerophilic strep- 2-6% . , ,
 tococci . metronidazole , , ,
 penicillin , amoxicillin/clavulanic acid , , erythromycin
 2-4 g ± rifampicin(300 mg 2 600
 imipenem, meropenem, chloramphenicol, beta mg 1) , fluoroquinolone(ciprofloxacin 400 mg
 lactam/ beta lactam inhibitor . 8 750 mg 12 ,
 clindamycin 가 metronidazole levofloxacin 500 mg 1)
 penicillin amoxicillin/clavulanic acid 9). erythromycin
 4) . Azithromycin 500 mg 1 ,
 clarithromycin 500 mg 2 .
 3 .
 10-14 4 9).
 21 가 . Azith-
 가 romycin 5-10 9). ,
 . , ,
 90%가 .
 40-65% , 40-45% 가 가 .
 . 가
 Prevootella melaninogenica, Bacteroides, Por 1. 60
 -phyromonas, Fusobacterium, peptostreptococci, pepto 가 가
 cocci, microaerophilic streptococci . Streptococcus pneumoniae, Mycoplasma pneu-
 Legionella sp. , moniae, Respiratory viruses, Chlamydia pneumoniae,
 (40) , Hemophilus influenzae가 5%
 , , , () , 1% Legionella sp.,

Table 2. 60 가 가 (1 5%)*

: Streptococcus pneumoniae, Mycoplasma pneumoniae, Respiratory viruses, Chlamydia pneumoniae, Hemophilus influenzae
: Legionella sp., Staphyococcus aureus, Mycobaterium tuberculosis, aerobic gram negative bacilli
: Macrolide † Tetracycline
Macrolide, Fluoroquinolone, or Doxycycline (17-40 Doxycycline)

* 1/3 1/2
 † Erythromcin , H. influenzae roxithromycin, clarithromycin,
 azithromycin, dirithromycin macrolide
 S. pneumoniae 가 tetracyclines macrolides

Staphyococcus aureus, *Mycobaterium tuberculosis*, aerobic gram negative bacilli (Table 2).

1 5% , 1/3 1/2 1), penicillin beta- lactam *S. pneumoniae* beta- lactam penicillin cephalosporin beta- lactam *H. influenzae*가 50% 2), *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, *Legionella pneumophila* 가 30% beta- lactamase 1), erythromycin macrolide가 가 clavulanic acid, ampicillin/sulbactam, doxycycline, erythromycin *in vitro* *H. influenzae* fluoroquinolone , *S. pneumoniae*가 tetracyclines 3 macrolide clarithromycin, azithromycin, roxithromycin, dirithromycin *in vitro* cephalosporin sulfame- thoxazole/trimethoprim, azithromycin *M. pneumoniae*, *C. pneumoniae*, *L. pneumophila* *S. pneumoniae*, *H. influenzae* 가 , , 60 *H. influenzae*가 1), 가 , 가, 2. 60 가 가 가 *S. pneumoniae*, Respiratory viruses, *H. influenzae*, Aerobic gram- negative bacilli, *S. aureus* 1% *Moraxella catarrhalis*, *Legionella sp.*, *M. tuberculosis*

Table 3. 60 가 †

: *S. pneumoniae*, Respiratory viruses, *H. influenzae*, Aerobic gram- negative bacilli, *S. aureus*

: *Moraxella catarrhalis*, *Legionella sp.*, *M. tuberculosis*

: 2 cephalosporin Sulfamethoxazolem/trimethoprim Beta- lactam/ beta- lactamase inhibitor ± Erythromycin macrolide ‡

Macrolide, Fluoroquinolone, or Doxycycline ()

Fluoroquinolone

Amoxicillin/clavulanic acid

. HIV
 † 1/3 1/2
 ‡ *Legionella sp.*
 fluoroquinolone: levofloxacin, sparfloxacin, grepafloxacin, trovafloxacin

Table 4.

1.	65
2.	: , , , , , , , , , , 1
3.	: 30 , 60 mmHg, 90 mmHg , 38.3 ,
4.	: 4,000/mm ³ , 30,000/mm ³ , 1,000/mm ³ , PaO ₂ 60 mmHg PaCO ₂ 50 mmHg , , creatinine > 1.2 mg/dL BUN 20 > mg/dL , 2 , , (, prothrombin time 가, partial thromboplastin time 가, , fibrin split products >1:40)

(Table 3).

Gram negative bacilli, *M. catarrhalis*, *M. tuberculosis*
가

Legionella sp. 7).
5% ,
20% 1).
2 cephalosporin, sulfamethoxazole/
trimethoprim, Beta-lactam/beta-lactamase inhibitor
, *Legionella sp.*
erythromycin macrolide 가 1).

가 macrolide, fluoroquinolone, doxycy-
cline () 가
amoxicillin/clavulanic acid, 2 cephalos-
porin(cefuroxime, cefpodoxime, cefprozil)
fluoroquinolone,
amoxicillin/clavulanic acid, 17 - 40
doxycycline 4). Sulfametho-
xazole-trimethoprim *S. pneumoniae*가
10% 1).
cephalosporin *in vitro*
cefopodoxime > cefuroxime > cefprozil > cefixime
> cefaclor = loracarbef > cefadroxil = cephalixin

4).

3.

, Table 4

1).

4.

S. pneu-
moniae, *H. influenzae*, (),
gram-negative bacilli, *Legionella sp.*, *S. aureus*, *C.*
pneumoniae, Respiratory viruses
, *M. pneumoniae*, *Moraxella catarrhalis*, *M.*
tuberculosis (Table 5).

, *Legionella sp.*
가 .
가
60
5 25%
7 .
2/3 cephalosporin beta-
lactam/beta-lactamase inhibitor , *Legionel-*
la sp. macrolide
*Legionella sp.*가 rifampin 1 600 1,200
mg 1 2 가 .

1).
cefotaxime ceftriaxone 3
cephalosporin ± macrolide, fluoroquinolone
, cefuroxime ±
macrolide, azithromycin 4).

Table 7. †

	: <i>S. pneumoniae</i> , <i>Legionella sp.</i> , Aerobic gram-negative bacilli, <i>M. pneumoniae</i> , Respiratory viruses
	: <i>H. influenzae</i> , <i>M. tuberculosis</i>
	: Macrolide ‡
	PLUS
3	cephalosporin with anti- <i>Pseudomonas</i> activity# antipseudomonal agents such as imipenem/cilastatin, fluoroquinolones

. HIV	.
† 1/3- 1/2	.
‡ <i>Legionella sp.</i> 가	rifampin 가
# <i>P. aeruginosa</i> aminoglycoside	, 3 cephalosporin, imipenem, ciprofloxacin
- 50%	
-	<i>Legionella sp.</i> 가
<i>Chlamydia</i> , virus 가	6. 가
erythromycin, azithromycin, fluoroquinolone	,
cefotaxime, ceftriaxone, beta lactam/beta lactam inhibitor	가 . <i>Pseu-</i>
	<i>domonas aeruginosa</i>
	4.
	<i>Pseudomonas penicillin</i> ,
carbapenem, cefepime	macrolide
fluoroquinolone	aminoglycoside .
가	fluoroquinolone 가 가
clindamycin	.
fluoroquinolone	clindamycin metronidazole rifampin
inhibitor	, beta lactam/beta lactam , legionella menig-
Beta lactam/beta lactam inhibitor	4. cococcus mycoplasma, chlamydia,
subactam, ticarcillin/clavulanic acid, piperacillin/tazobactam	methicilline 가 .
ticarcillin/clavulanic acid, piperacillin/tazobactam	cycloserine , , chlamydia
	가 , aminoglycosides kanamycin,
	amikacin
	가 . Mycoplasma
3 cephalosporins	,
2 cephalosporin	,
cefotaxime ceftriaxone Table 5	.
	가 .
<i>Pseudomonas aeruginosa</i> 가	quinolones, beta- lactam penicillins/lactamase inhibitor
cefoperazone 가 3 cephalosporin ,	(: amoxicillin/clavulanic acid), macrolide,
가 imipenem/cilastatin, ciprofloxacin	amikacin, cephalosporin(, ceforanide)
fluoroquinolones 1).	가
aminoglycosides	,
	가가

24 가

3 가

S. aureus

가 1-4. *S. pneumoniae* 7- 10 , . 가

(72 , 5) 1,4. 가

M. pneumoniae, *C. pneumoniae* 14 95% 1,7). 가

(21) . *Legionnaires* 가

14 , 21 가

4). *Enterobacteriaceae*, *Pseudomonas*

21 , 42 , *Staphylococcus* 21 48 72 .

2). 14- 21

가 azithromycin 5 가 가 72

. Azithromycin half-life가 11- 14 erythromycin 1.5- 3 , clarithromycin 3.8 2 4 , *S. pneumoniae* 2.5

가 azithromycin *pneumoniae* 1- 2 6- 7 . *M. pneumoniae* .

1). 42- 56 ,

4- 5 2). , *Legionella* 가 *Legionella* 가 4

가 5 . 가 4

가 20 40% 7

가 1,6). *S. pneumoniae* 50

doxycycline, minocycline, chloramphenicol, sulfamethoxazole/trimethoprim, fluoroquinolones X-ray 4 60% ,

가 1). 가 ,

가 X-ray 25% 4 X-ray . *M. pneumoniae*

가 metronidazole, amoxicillin/clavulanic acid, amoxicillin, clindamycin 가 가 X-ray , *Legionella sp.*

가 가 2). (

Cefuroxime, ampicillin, erythromycin, flucloxacillin Pore of Kohn, channel of

가 Lambert 가)

가 ceftriaxone cefixime, cefotaxime

cefepodoxime 가

2). Ceftazidime ciprofloxacin 가 (red hepatization)

가 (gray hepatization) (consolidation)

가 가

